



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,312	04/02/2001	Yu Kwong Kwok	016055-001	2533
21836	7590	11/30/2004		EXAMINER
		HENRICKS SLAVIN AND HOLMES LLP SUITE 200 840 APOLLO STREET EL SEGUNDO, CA 90245		MATTIS, JASON E
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/825,312	KWOK ET AL.	
	Examiner	Art Unit	
	Jason E Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 April 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4/2/01</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____ .

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because of the following informality:

Figures 5, 6, 7, and 8 are each difficult to read due to dark shading around the text. It is recommended that these figures be recreated so that they are more easily readable (i.e. black text on a white background).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 16 each contain the limitation "wherein the particular address bits comprise A_{1,3,5,7,9}". It is unclear from the claims what exactly is meant by the symbol "A_{1,3,5,7,9}". It is recommended that the claim be rewritten to more accurately and clearly claim the disclosed invention. For example, Pages 7-8 of the specification disclose that

the device address have 32 bits with only the bits 1, 3, 5, 7, and 9 varying between the device addresses and the rest of the bits remaining constant for all device addresses.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 6-15, and 17-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugar et al. (U.S. Pat. 09/970846).

With respect to claim 1, Sugar et al. discloses a system architecture for facilitating wireless communications between devices (See page 3 paragraph 42 and Figure 1 of Sugar et al. for reference to a system 10 facilitating wireless communication between terminal nodes 14, 16, 18, 20, and 22). Sugar et al. also discloses a processor configured to implement interference avoidance processing and interference control processing for one or more groups of devices of a packet communication system (See page 3 paragraph 46 and Figure 2 of Sugar et al. for reference to network access arbitration controller (NAAC) 190, which is a processor, of multi-protocol wireless communication device (MPD) 12 that implements interference mitigation/collision

avoidance procedures). Sugar et al. further discloses the interference avoidance processing providing different address for each of the group of devices (See page 3 paragraphs 42-46 and Figure 2 of Sugar et al. for reference to MAC layer protocol processors 180, 182, and 184, which are processors for each of the different protocols, Bluetooth, 802.11, and HomeRF, used by the MPD 12, meaning that since each of these protocols uses a different addressing system, there must be a separate address for each of these MAC layer protocol processors so that a terminal node may communicate with the MPD 12). Sugar et al. also discloses each of the group of devices having a common clock to minimize a frequency collision probability for the devices (See page 10 paragraphs 117-120 of Sugar et al. for reference to using a common clock for each of the transmitters to prevent data transmission from interfering with each other). Sugar et al. further discloses the interference control processing detecting when a same frequency element is selected for more than one of the devices for a same time slot and implementing rescue processing to save data packets that are going to collide (See page 11 paragraphs 129-133 and Figure 122 of Sugar et al. for reference to determining a next 32 Bluetooth hopping frequencies at a time and storing these in a table, arbTbl, to determine when a timeslot will collide with a frequency used by another transmitter and for reference to inhibiting the transmission from the Bluetooth device during the interfering time slot to prevent a collision and saving the data packets that are transmitted by the other transmitter).

With respect to claim 14, Sugar et al. discloses a method for facilitating wireless communications between devices (See pages 2-3 paragraphs 38-39 of Sugar et al. for

reference to enabling the operation of wireless communications between devices). Sugar et al. also discloses controlling hopping frequency generators for a plurality of groups of communication devices within range of each other to generate hopping frequencies sequences for the groups of communications devices by providing the same clock values and different addresses to the hopping frequency generators (See page 11 paragraphs 129-133 of Sugar et al. for reference to controlling the frequency hoping sequences by providing a common clock for the frequency hopping transmitters and for reference to since each of the protocols of the transmitter devices uses a different addressing system, there must be a separate address for each of these MAC layer protocol processors so that a terminal node may communicate with the MPD 12).

With respect to claim 17, Sugar et al. discloses a method facilitating wireless communications between devices (See pages 2-3 paragraphs 38-39 of Sugar et al. for reference to enabling the operation of wireless communications between devices).

Sugar et al. also discloses determining when frequency collisions will occur for a plurality of groups of communication devices within range of each other (See page 11 paragraphs 129-133 and Figure 122 of Sugar et al. for reference to determining a next 32 Bluetooth hopping frequencies at a time and storing these in a table, arbTbl, to determine when a timeslot will collide with a frequency used by another transmitter).

Sugar et al. further discloses inhibiting transmission of packets in all but one of the groups of communication devices during a collision time slot (See page 11 paragraphs 129-133 and Figure 122 of Sugar et al. for reference to inhibiting the transmission from

the Bluetooth device during the interfering time slot to prevent a collision and saving the data packets that are transmitted by the other transmitter).

With respect to claims 2 and 3, Sugar et al. discloses that the groups of devices comprise a plurality of piconets (See page 9 paragraph 109 of Sugar et al. discloses that the devices produce one Bluetooth piconet a channel of 802.11b, which is a second piconet, and one HomeRF network, which is a third piconet).

With respect to claims 4 and 15, Sugar et al. discloses that the interference avoidance processing includes choosing particular address bits to provide the different addresses (Since the MPD of Sugar et al. uses addresses to communicate, these address must include choosing particular address bits to provide the different addresses).

With respect to claims 6 and 18, Sugar et al. discloses that the rescue processing is performed in consideration of a packet importance indicator (See page 11 paragraphs 129-133 of Sugar et al. for reference to setting a variable, which is a packet importance indicator representing which network is allowed to transmit during times of conflicting frequencies).

With respect to claims 7 and 19, Sugar et al. discloses that the packet importance indicator relates to packet type (See page 4 paragraph 54 of Sugar et al. for reference to transmitting during conflicting times based on a priority for a type of data, or packet).

With respect to claims 8 and 19, Sugar et al. discloses that the packet importance indicator relates to service type (See page 4 paragraph 54 of Sugar et al. for

reference to transmitting during conflicting times based on a priority type for a type of data or channel, which is a service type, i.e. voice or video communications).

With respect to claims 9, 10, 19, and 20, Sugar et al. discloses that the packet importance indicator relates to a fairness criterion comprising a history of prior connections made (See page 11 paragraphs 132-133 of Sugar et al. for reference to alternating the variable to allow a first transmitter to transmit during a first collision time and the other transmitter to transmit during the next collision time, meaning the indicator remembers a history of the last transmitter to have priority and bases the next priority on that history).

With respect to claims 11-13, Sugar et al. discloses that the packet-communication system is a spread-spectrum, frequency-hopping, short-range packet-communications system compatible with the Bluetooth standard and capable of operating in the 2.4-Gbit industrial, scientific and medical (ISM) band (See page 9 paragraphs 108-109 of Sugar et al. for reference to the system using the Bluetooth standard, which is a spread-spectrum, frequency-hopping, short-range packet-communications system and for reference to using the 2.4 GHz ISM band).

With respect to claim 21, Sugar et al. discloses that the packet importance indicator is tuned (See page 11 paragraphs 132-133 of Sugar et al. for reference to tuning the priority variable by toggling it from 1 to 0 or from 0 to 1 in accordance with the priority determination).

Allowable Subject Matter

7. Claims 5 and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

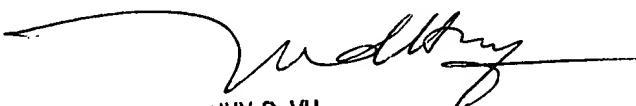
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Souissi et al. (U.S. Application 09/736755) discloses inhibiting the transmission from the Bluetooth device during the interfering time slot to prevent a collision and save the data packet that are transmitted by the other transmitter. Beach (U.S. Application 10/037225) discloses multiple Bluetooth ports connected by a central switching hub that assigns frequencies to the ports.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jem



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600